**Pair: Oracle_bosdbdev to Postgresql_bosdbdev**

# Database migration assessment report

Source database: Oracle_bosdbdev
Version: Oracle Database 19c Enterprise Edition 19.3.0.0.0 (Production), Enterprise edition
Target database: Postgresql_bosdbdev
Version: PostgreSQL 16.4 on x86_64-pc-linux-gnu, compiled by gcc (GCC) 7.3.1 20180712 (Red Hat 7.3.1-17), 64-bit

We completed the analysis of your source database and estimate that 100% of the database storage objects and 56% of database code objects can be converted automatically or with minimal changes if you select Amazon RDS for PostgreSQL as your migration target.
Database storage objects include schemas, tables, table constraints, indexes, types, collection types, sequences, synonyms, view-constraints, clusters and database links.
Database code objects include triggers, views, materialized views, materialized view logs, procedures, functions, packages, package constants, package cursors, package exceptions, package variables, package functions, package procedures, package types, package collection types, scheduler-jobs, dbms-jobs, scheduler-programs, scheduler-schedules and queuing-tables.

To complete the migration, we recommend 16 conversion action(s) ranging from simple tasks to medium-complexity actions to complex conversion actions.

## *Pair summary*

| Source schema | Complexity | Storage objects | Code objects | Server level objects | Auto or minimal changes | | | | Complex actions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Storage objects | Code objects | Server level objects | Conversion actions | Storage objects | | Code objects | | Server level objects | |
| | | | | | | | | | Objects count | Conversion actions | Objects count | Conversion actions | Objects count | Conversion actions |
| CO | 1 | 38 | 4 | 0 | 38 (100%) | 2 (50%) | - | 6 | - | 0 | 2 (50%) | 2 | - | 0 |
| HR | 1 | 44 | 5 | 0 | 44 (100%) | 3 (60%) | - | 6 | - | 0 | 2 (40%) | 2 | - | 0 |
| **Total** | **1** | **82** | **9** | **0** | **82 (100%)** | **5 (56%)** | **-** | **12** | **-** | **0** | **4 (44%)** | **4** | **-** | **0** |

* You can click on figure to open detailed report.

## Pair: Oracle_bosdbdev to Postgresql_bosdbdev

Source database: Oracle_bosdbdev
Version: Oracle Database 19c Enterprise Edition 19.3.0.0.0 (Production), Enterprise edition
Target database: Postgresql_bosdbdev
Version: PostgreSQL 16.4 on x86_64-pc-linux-gnu, compiled by gcc (GCC) 7.3.1 20180712 (Red Hat 7.3.1-17), 64-bit

** The object actions complexity is a sum of the complexity of the action items associated with the object. Therefore, an object with multiple simple action items could be treated as "object with medium-complexity actions" or even as "object with complex actions."

## Pair: Oracle_bosdbdev to Postgresql_bosdbdev

Source database: Oracle_bosdbdev
Version: Oracle Database 19c Enterprise Edition 19.3.0.0.0 (Production), Enterprise edition
Target database: Postgresql_bosdbdev
Version: PostgreSQL 16.4 on x86_64-pc-linux-gnu, compiled by gcc (GCC) 7.3.1 20180712 (Red Hat 7.3.1-17), 64-bit

**Figure: Conversion statistics for database storage objects**

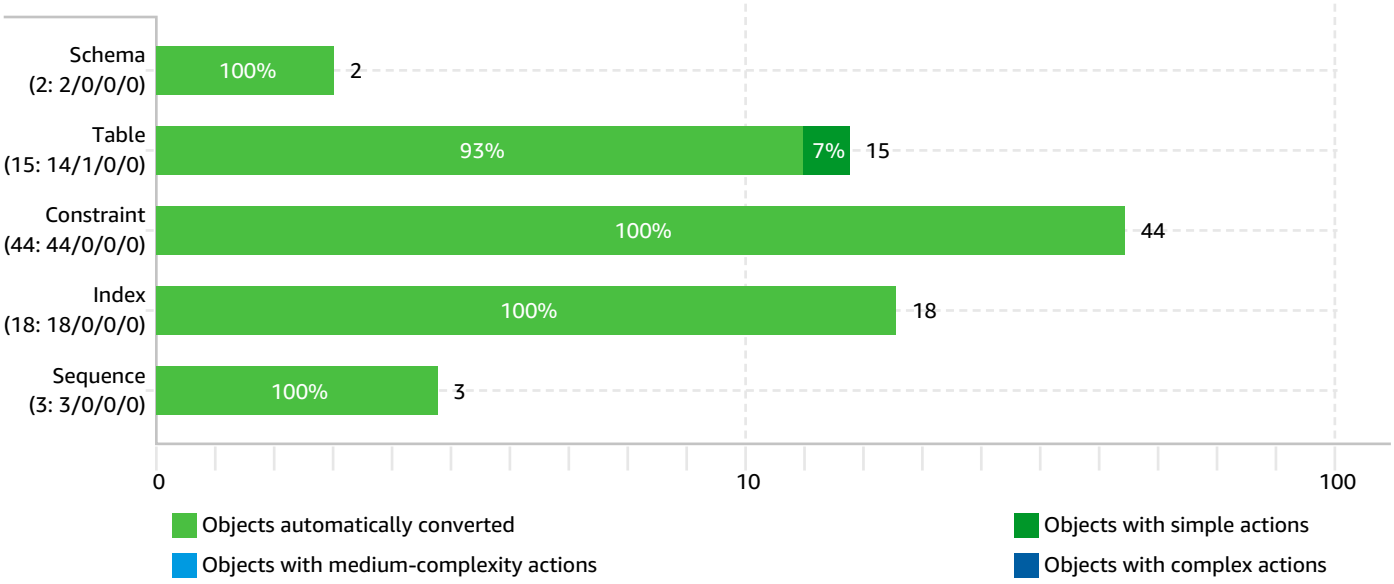
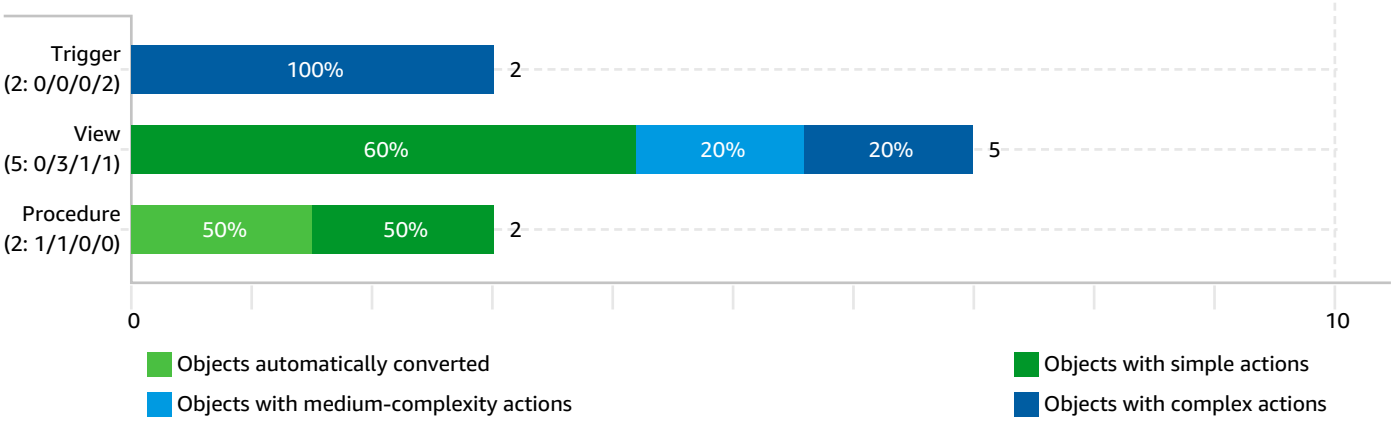



**Figure: Conversion statistics for database code objects**



Source database: CO.Oracle_bosdbdev
Version: Oracle Database 19c Enterprise Edition 19.3.0.0.0 (Production), Enterprise edition

# Executive summary

We completed the analysis of your Oracle source database and estimate that 100% of the database storage objects and 50%  of database code objects can be converted automatically or with minimal changes if you select Amazon RDS for PostgreSQL as your migration target.

Database storage objects include schemas, tables, table constraints, indexes, types, collection types, sequences, synonyms, view-constraints, clusters and database links.

Database code objects include triggers, views, materialized views, materialized view logs, procedures, functions, packages, package constants, package cursors, package exceptions, package variables, package functions, package procedures, package types, package collection types, scheduler-jobs, dbms-jobs, scheduler-programs, scheduler-schedules and queuing-tables.

Based on the source code syntax analysis, we estimate 96% (based on # lines of code) of your code can be converted to Amazon RDS for PostgreSQL automatically.

To complete the migration, we recommend 8 conversion action(s) ranging from simple tasks to medium-complexity actions to complex conversion actions.

Migration guidance for database objects that could not be converted automatically can be found here

# Database objects with conversion actions for Amazon RDS for PostgreSQL

Of the total 38 database storage object(s) and 4 database code object(s) in the source database, we identified 38 (100%) database storage object(s) and 2 (50%) database code object(s) that can be converted to Amazon RDS for PostgreSQL automatically or with minimal changes.

2 (50%) database code object(s) require 1 medium and 1 complex user action(s) to complete the conversion.

The object(s) action(s) complexity is a sum of the complexity of the action items associated with the object. Therefore, an object with multiple simple action items could be treated as "object with medium-complexity actions" or even as "object with complex actions."

**Figure: Conversion statistics for database storage objects**

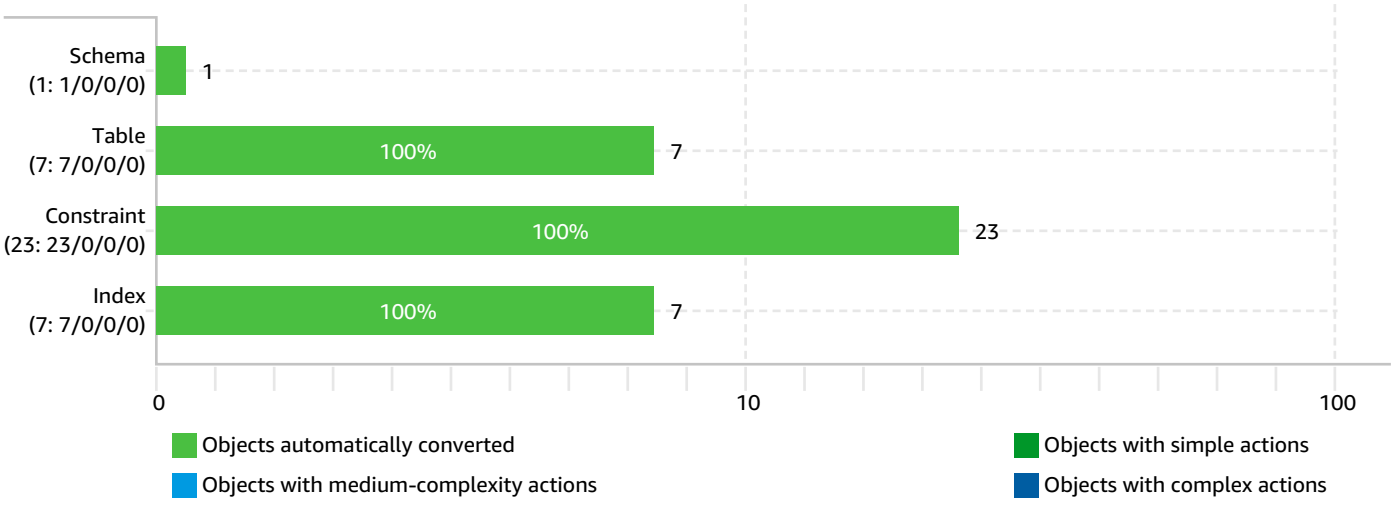


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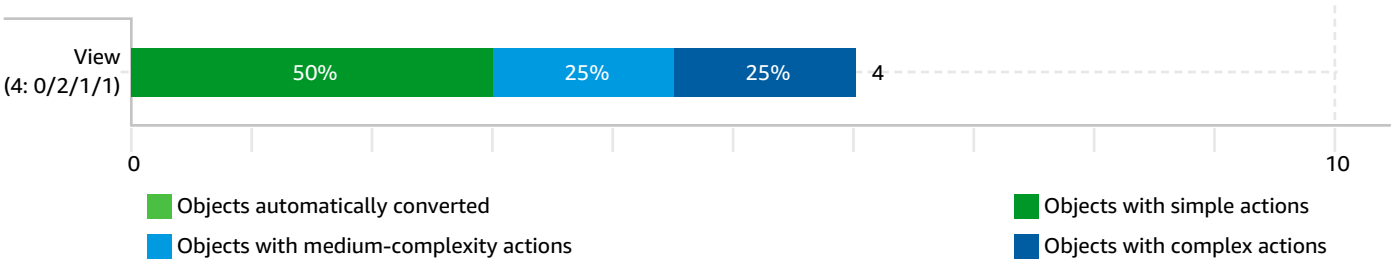
**Figure: Conversion statistics for database code objects**




# Detailed recommendations for Amazon RDS for PostgreSQL migrations

If you migrate your Oracle database to Amazon RDS for PostgreSQL, we recommend the following actions.

## Storage object actions

## Table Changes

Not all tables can be converted automatically. You'll need to address these issues manually.

### Issue 5984: Specify the precision and scale values for your source column

Recommended action: To improve the conversion and use the optimized data type mapping, specify the precision and scale values for the column in your source code. Then, convert the table again.

Issue code: 5984 | Number of occurrences: 18 | Estimated complexity: Info

Schemas.CO.Tables.CUSTOMERS.Columns.CUSTOMER_ID
Schemas.CO.Tables.INVENTORY.Columns.INVENTORY_ID
Schemas.CO.Tables.INVENTORY.Columns.PRODUCT_ID
Schemas.CO.Tables.INVENTORY.Columns.PRODUCT_INVENTORY
Schemas.CO.Tables.INVENTORY.Columns.STORE_ID
+13 more

## Code object actions

## View Changes

Not all views can be converted automatically. You'll need to address these issues manually.

### Issue 5320: PostgreSQL doesn't support views with the INVALID status

Recommended action: Convert your source code manually.

Issue code: 5320 | Number of occurrences: 3 | Estimated complexity: Simple

Documentation references: http://www.postgresql.org/docs/current/static/sql-createview.html

Schemas.CO.Views.CUSTOMER_ORDER_PRODUCTS
Schemas.CO.Views.PRODUCT_ORDERS
Schemas.CO.Views.STORE_ORDERS

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### Issue 9997: Unable to resolve objects

Recommended action: Verify if the unresolved object is present in the database. If it isn't, check the object name or add the object. If the object is present, transform the code manually.

Issue code: 9997 | Number of occurrences: 3 | Estimated complexity: Simple

Schemas.CO.Views.PRODUCT_REVIEWS: Line 1:23
Schemas.CO.Views.PRODUCT_REVIEWS: Line 3:67
Schemas.CO.Views.PRODUCT_REVIEWS: Line 8:183

### Issue 5341: PostgreSQL doesn't support LISTAGG functions with the ON OVERFLOW clause.

Recommended action: Revise your code to use another function or create a user-defined function.

Issue code: 5341 | Number of occurrences: 1 | Estimated complexity: Medium

Schemas.CO.Views.CUSTOMER_ORDER_PRODUCTS: Line 6:222

### Issue 9996: Internal Converter error occurred

Recommended action: Please submit report to developers.

Issue code: 9996 | Number of occurrences: 1 | Estimated complexity: Complex

Schemas.CO.Views.PRODUCT_REVIEWS: Line 1:0

Source database: HR.Oracle_bosdbdev
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Based on the source code syntax analysis, we estimate 96% (based on # lines of code) of your code can be converted to Amazon RDS for PostgreSQL automatically.

To complete the migration, we recommend 8 conversion action(s) ranging from simple tasks to medium-complexity actions to complex conversion actions.

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# Database objects with conversion actions for Amazon RDS for PostgreSQL

Of the total 44 database storage object(s) and 5 database code object(s) in the source database, we identified 44 (100%) database storage object(s) and 3 (60%) database code object(s) that can be converted to Amazon RDS for PostgreSQL automatically or with minimal changes.

2 (40%) database code object(s) require 2 complex user action(s) to complete the conversion.

The object(s) action(s) complexity is a sum of the complexity of the action items associated with the object. Therefore, an object with multiple simple action items could be treated as "object with medium-complexity actions" or even as "object with complex actions."

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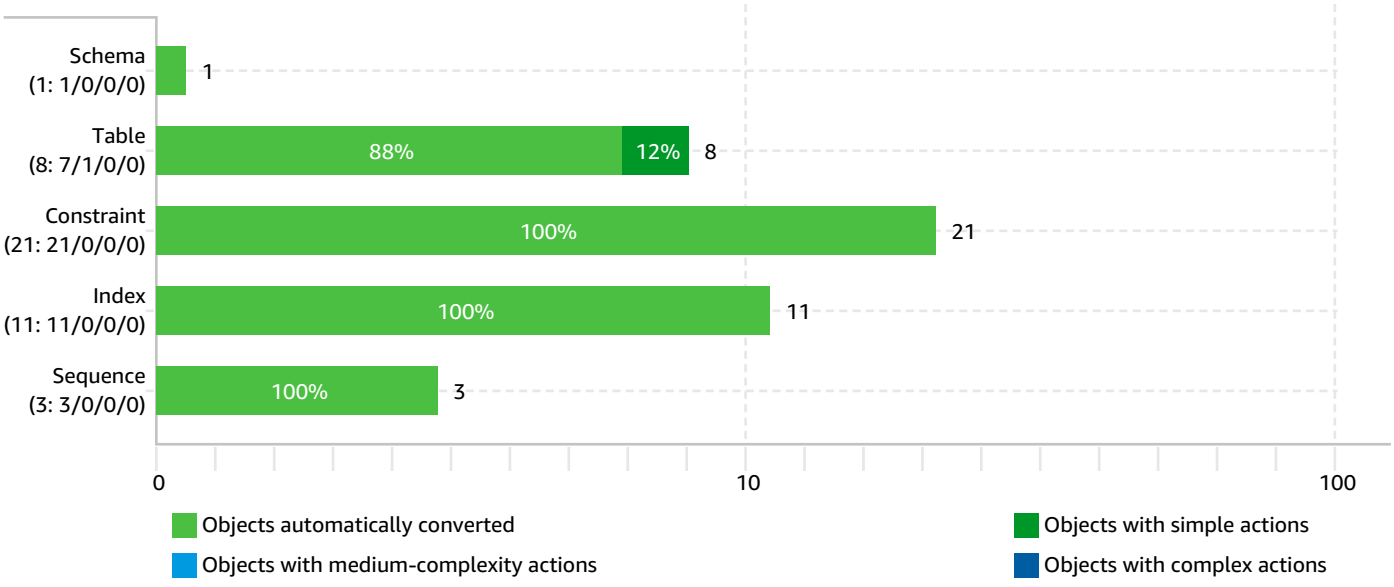

Source database: HR.Oracle_bosdbdev
Version: Oracle Database 19c Enterprise Edition 19.3.0.0.0 (Production), Enterprise edition

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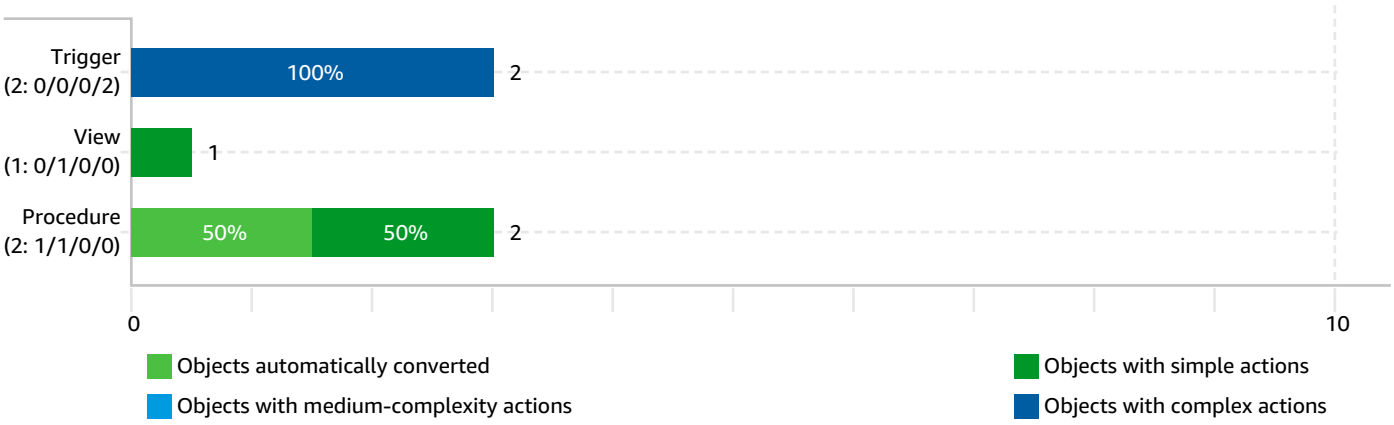


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If you migrate your Oracle database to Amazon RDS for PostgreSQL, we recommend the following actions.

## Storage object actions

## Table Changes

Not all tables can be converted automatically. You'll need to address these issues manually.

### Issue 5984: Specify the precision and scale values for your source column

Recommended action: To improve the conversion and use the optimized data type mapping, specify the precision and scale values for the column in your source code. Then, convert the table again.

Issue code: 5984 | Number of occurrences: 3 | Estimated complexity: Info

Schemas.HR.Tables.COUNTRIES.Columns.REGION_ID
Schemas.HR.Tables.REGIONS.Columns.REGION_ID
Schemas.HR.Tables.TIME_RANGE_SALES.Columns.CUST_ID

### Issue 5581: PostgreSQL doesn't support index-organized tables

Recommended action: Revise your code to use a custom solution for the table type and try again.

Issue code: 5581 | Number of occurrences: 1 | Estimated complexity: Simple

Schemas.HR.Tables.COUNTRIES

## Code object actions

## Trigger Changes

Not all triggers can be converted automatically. You'll need to address these issues manually.

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### Issue 5326: PostgreSQL doesn't support status definitions in CREATE statements for triggers and constraints

Recommended action: Revise your code to turn off the trigger or drop the constraint manually and try again.

Issue code: 5326 | Number of occurrences: 1 | Estimated complexity: Simple

Documentation references: http://www.postgresql.org/docs/current/static/sql-createtable.html

Schemas.HR.Tables.EMPLOYEES.Triggers.SECURE_EMPLOYEES$(HR)

### Issue 5584: Review the converted function

Recommended action: Review the converted code and set the time zone manually where necessary.

Issue code: 5584 | Number of occurrences: 1 | Estimated complexity: Simple

Documentation references: http://www.postgresql.org/docs/current/static/functions-datetime.html

Schemas.HR.Tables.EMPLOYEES.Triggers.UPDATE_JOB_HISTORY$(HR): Line 2:58

### Issue 5340: DMS SC can't convert functions

Recommended action: Revise your code to use another function or create a user-defined function.

Issue code: 5340 | Number of occurrences: 2 | Estimated complexity: Complex

Schemas.HR.Tables.EMPLOYEES.Triggers.SECURE_EMPLOYEES$(HR): Line 2:8
Schemas.HR.Tables.EMPLOYEES.Triggers.UPDATE_JOB_HISTORY$(HR): Line 2:8

## View Changes

Not all views can be converted automatically. You'll need to address these issues manually.

### Issue 5075: PostgreSQL doesn't support the WITH READ ONLY clause for views

Recommended action: Revise your code to use views without the subquery restriction clause.

Issue code: 5075 | Number of occurrences: 1 | Estimated complexity: Simple

Documentation references: http://www.postgresql.org/docs/current/static/sql-createview.html

Schemas.HR.Views.EMP_DETAILS_VIEW: Line 30:524

## Procedure Changes

Not all procedures can be converted automatically. You'll need to address these issues manually.

### Issue 5584: Review the converted function

Recommended action: Review the converted code and set the time zone manually where necessary.

Issue code: 5584 | Number of occurrences: 2 | Estimated complexity: Simple

Documentation references: http://www.postgresql.org/docs/current/static/functions-datetime.html

Schemas.HR.Procedures.SECURE_DML: Line 4:44
Schemas.HR.Procedures.SECURE_DML: Line 5:116